REMARKS

Applicants express appreciation to the Examiner for the courtesy of an interview granted to applicants' representatives Marc A. Berger (Reg. No. 44,029). The interview was held by telephone on Wednesday, October 26, 2005. The claims and the prior art were discussed. Applicants have amended the claim language as discussed with the Examiner during the interview.

Applicants have carefully studied the outstanding Office Action. The present amendment is intended to place the application in condition for allowance and is believed to overcome all of the objections and rejections made by the Examiner. Favorable reconsideration and allowance of the application are respectfully requested.

Applicants have amended claims 1 - 5, 18, 22, 24, 25, 30 – 32, 46 - 59, 65, 67, 73, 75, 89 – 93, 108, 110 and 113 - 115 to more properly claim the present invention. No new matter has been added. Claims 1 – 35, 46 – 78 and 89 - 118 are presented for examination.

In Paragraphs 2 and 3 of the Office Action, the Examiner has rejected claims 1 – 18, 18, 20, 25 – 27, 31 – 35, 46 – 59, 61, 63, 68, 69, 70, 74 – 78, 90 – 102, 104, 106, 111 and 114 - 118 under 35 U.S.C. §103(a) as being unpatentable over Draper et al., US Patent No. 5,878,434 ("Draper") in view of Kavanagh et al., US Patent No. 5,838,965 ("Kavanagh).

In Paragraph 4 of the Office Action, the Examiner has rejected claims 17, 60 and 103 under 35 U.S.C. §103(a) as being unpatentable over Draper in view of Kavanagh and further in view of Tenorio et al., US Patent No. 6,708,161 ("Tenorio").

In Paragraph 5 of the Office Action, the Examiner has rejected claims 19, 62 and 105 under 35 U.S.C. §103(a) as being unpatentable over Draper in view of Kavanagh and further in view of Black et al., US Patent No. 6,735,585 ("Black").

In Paragraph 6 of the Office Action, the Examiner has rejected claims 21 – 24, 28 – 30, 64 – 67, 71 – 73, 107 – 110, 112 and 113 under 35 U.S.C. §103(a) as being unpatentable over Draper in view of Kavanagh and further in view of Sundaresan, US Patent No. 6,569,207 ("Sundaresan")

Distinctions between Claimed Invention and U.S. Patent No. 5,878,434 to Draper et al. in view of U.S. Patent No. 5,838,965 to Kavanagh et al. and

further in view of U.S. Patent No. 6,708,171 to Tenorio et al., U.S. Patent No. 6,735,585 to Black et al. and U.S. Patent No. 6,569,207 to Sundaresan

Draper describes a method and apparatus for handling inconsistent updates made to disconnected replicas of a database. As shown in FIG. **2** of Draper, two disconnectable computers **40** independently perform modifications to replicas **56** of a target database, and the modifications are subsequently propagated throughout the replicas **56**, when the two computers **40** are re-connected, so as to synchronize the replicas (Draper / col. 4, lines 28 – 63). Draper describes a method and system for handling clashes that arise when modifications performed on one computer **40** conflict with those performed on another computer **40**. Specifically, Draper describes a "merging out" step whereby modifications performed on the first computer **40** are transmitted to the second computer **40** and applied to the second replica **56**; and a "merging in" step whereby modifications performed on the second computer **40** are transmitted to the first computer **40** and applied to the first replica **56** (Draper / col. 2, lines 38 – 46); col. 39, lines 36 – 61; elements **100** and **102** of FIG. **4**).

In distinction to at least certain embodiments of the present invention, which concern modifications to data definitions, also referred to as data schemas, Draper concerns modification to data values, also referred to as data instances. I.e., at least certain embodiments of the present invention concern operations on the schema level, whereas Draper concerns operations on the data, or instance level. Thus, referring to FIG. **3** of Draper, class definitions and attribute definitions, specified by object schema **84**, are not being modified by computers **40**; instead, attributes values are being modified (Draper / col. 5, lines 44 – 66). At least certain embodiments of the present invention, on the other hand, specifically concern collaborative modification of class definitions and relation definitions; i.e., modifications to the schema, or ontology model, itself, and not to instance data.

Further in distinction to at least certain embodiments of the present invention, which concern a distributed ontology model, with different parts of the model distributed among different computers, Draper concerns replicas of a single database model.

Kavanagh describes an object oriented knowledge base management system.

In distinction to at least certain embodiments of the present invention which concern collaborative development of an ontology model, where

different but inter-related portions of the model reside on different computers, the knowledge base of Kavanagh resides on a single server, namely Knowledge Base Server **132** in FIG. **3** of Kavanagh. Thus, whereas Kavanagh describes a collaborative environment for working on a central model, the present invention concerns a distributed model, in which the model itself is distributed over multiple computers.

Tenorio describes a method and system for determining the efficiency of indexing a selected field of a relational database table, and was cited by the Examiner in rejecting claims 17, 60 and 103 as teaching the limitation of a search tool.

Black describes an enhanced Internet search engine, and was cited by the Examiner in rejecting claims 19, 62 and 105 as teaching the limitation of a web filter.

Sundaresan describes a system for converting XML schemas to object-oriented classes, and was cited by the Examiner in rejecting claims 21 – 24, 28 – 30, 64 – 67, 71 – 73, 107 – 109, 110, 112 and 113 as teaching the limitations of an XML embedder and an XML generator.

In distinction to Draper, Kavanagh, Tenorio, Black and Sundaresan, certain embodiments of the present invention concern collaborative authoring of an ontology model that includes ontological classes and relations. The model is distributed, with different people publishing different but inter-related parts of the ontology to a plurality of server computers (original specification / page 15, lines 7 – 12; page 16, lines 24 – 36; publishers **219**, **229** and **239** of FIG. **2**). A global ontology directory is used to maintain a master catalogue of the model (original specification / page 15, lines 28 – 30; directory **243** of FIG. **2**). The distributed ontology can be queried using a client toolkit that consults the global ontology directory and then queries a server computer that contains an appropriate part of the ontology (original specification / page 16, lines 13 – 19; ontology toolkit **255** of FIG. **2**).

The rejections of claims 1 – 35, 46 – 78 and 89 - 118 in Paragraphs 2 - 5 of the Office Action will now be dealt with specifically.

As to amended independent claim 1 for a distributed ontology system, applicant respectfully submits that the limitations in claim 1 of

"*a global ontology directory*" and

"*relation definitions*"

are not specifically addressed in the Office Action, and are neither shown nor suggested in Draper, Kavanagh, Tenorio, Black or Sundaresan, taken individually or in combination. To further clarify this distinction, applicant has amended claim 46 to include recitation of the meaning of ontological classes and relations. Applicant has also amended claim 46 to include the limitation that each repository include a different portion of class and relation definitions, so as to distinguish from Draper in which the different computers **40** include replicas **56** of the target database (Draper / Abstract; col. 4, lines 47 – 55; FIG. **2**).

Because claims 2 – 35 depend from claim 1 and include additional features, applicant respectfully submits that claims 2 – 35 are not anticipated or rendered obvious by Draper, Kavanagh, Tenorio, Black, Sundaresan, or a combination of Draper, Kavanagh, Tenorio, Black and Sundaresan.

In rejecting claims 2, 47 and 90, the Examiner has cited Draper, col. 6, lines 1 – 50 as teaching "*wherein at least one relation definition within an ontology server computer references classes from a different ontology server computer*". Although Draper indicates that "*a database may contain many servers*", applicant believes that Draper does not describe a relation definition within one server referencing classes from a different server.

Accordingly claims 1 – 35 are deemed to be allowable.

As to amended independent claim 46 for a distributed ontology method, applicant respectfully submits that the limitation in claim 46 of

"*managing a plurality of repositories of ... relation definitions*";

and

"*managing a global ontology directory*"

are not specifically addressed in the Office Action, and are neither shown nor suggested in Draper, Kavanagh, Tenorio, Black or Sundaresan, taken individually or in combination. To further clarify this distinction, applicant has amended claim 46 to include recitation of the meaning of ontological classes and relations. Applicant has also amended claim 46 to include the limitation that each repository include a different portion of class and relation definitions, so as to distinguish over Draper in which the different computers **40** include replicas **56** of the target database (Draper / Abstract; col. 4, lines 47 – 55; FIG. **2**).

Because claims 47 – 78 depend from claim 46 and include additional features, applicant respectfully submits that claims 47 – 78 are not anticipated or rendered obvious by Draper, Kavanagh, Tenorio, Black,

Sundaresan, or a combination of Draper, Kavanagh, Tenorio, Black and Sundaresan.

Accordingly claims 46 – 78 are deemed to be allowable.

As to amended independent claim 89 for an ontology system, applicant respectfully submits that the limitations in claim 89 of

"*a global ontology directory*"; and

"*a plurality of repositories of ... relation definitions*"

are not specifically addressed in the Office Action, and are neither shown nor suggested in Draper, Kavanagh, Tenorio, Black or Sundaresan, taken individually or in combination. To further clarify this distinction, applicant has amended claim 89 to include recitation of the meaning of ontological classes and relations. Applicant has also amended claim 89 to include the limitation that each repository include a different portion of class and relation definitions, so as to distinguish from Draper in which the different computers **40** include replicas **56** of the target database (Draper / Abstract; col. 4, lines 47 – 55; FIG. **2**).

Because claims 90 – 118 depend from claim 89 and include additional features, applicant respectfully submits that claims 90 – 118 are not anticipated or rendered obvious by Draper, Kavanagh, Tenorio, Black, Sundaresan, or a combination of Draper, Kavanagh, Tenorio, Black and Sundaresan.

Accordingly claims 89 – 118 are deemed to be allowable.

Support for Amended Claims in Original Specification

Independent claims 1, 46 and 89 have been amended to include the meaning of ontological class and relation definitions, which is supported in the original specification at pages 1 and 2, and in the list of definitions on page 11.

Claims 1, 46 and 89 have also been amended to include the limitation that the ontology server computers comprise repositories including different portions of the class and relation definitions. This limitation is supported in the original specification at page 8, lines 3 – 12 ("*different parts of the ontology*"), page 15, lines 9 – 11 ("*separate definitions of classes and relations*"), page 16, lines 26 and 27 (" ... *the distributed sets of class and relation definitions define a global ontology model **320***")

For the foregoing reasons, applicants respectfully submit that the applicable objections and rejections have been overcome and that the claims are in condition for allowance.

Applicants hereby request an extension of time to respond to the pending Office Action. A check for the necessary extension fee is enclosed with this response.

Please charge any shortages or credit any overages to Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

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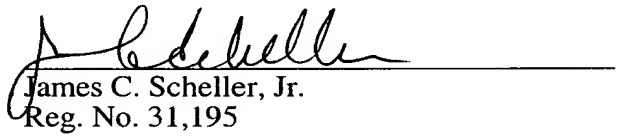

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